

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) Method for the operation of the rolling stands of a tandem cold rolling mill, comprising a pair of work rolls (10) and a pair of backup rolls (12) in the case of four-high rolling stands and, in addition, a pair of intermediate rolls (11) in the case of six-high rolling stands, wherein at least all the work rolls (10) and all the intermediate rolls (11) interact with axial shifting devices, comprising the combined use of the following technologies within the multiple-stand tandem cold rolling mill:

- use of CVC/CVC^{plus} technology with CVC roll contours of higher order, wherein each work roll and ~~or~~ intermediate roll (10, 11) has a barrel lengthened by the amount of the shifting stroke;
- use of pair-cross (PC) technology, wherein each work roll and ~~or~~ intermediate roll (10, 11) can be swiveled parallel to the plane of the strip;

- use of strip edge-oriented shifting of the work rolls and ~~or~~ intermediate rolls (10, 11), wherein each work roll and ~~or~~ intermediate roll (10, 11) has a barrel which is lengthened by the amount of the shifting stroke and which has a cylindrical or cambered cross section, and the work rolls and ~~or~~ intermediate rolls (10, 11) are each symmetrically shifted from the neutral shift position ($s_{ZW} = a$ or $s_{ZW} = 0$) by the same amount symmetrically to the center of the stand (Y-Y) in the direction of their axes of rotation (X-X).

2. (Previously presented) Method for the operation of the rolling stands of a tandem cold rolling mill, comprising a pair of work rolls (10) and a pair of backup rolls (12) in the case of four-high rolling stands and, in addition, a pair of intermediate rolls (11) in the case of six-high rolling stands, wherein at least the work rolls (10) and the intermediate rolls (11) interact with axial shifting devices, comprising the combined use of the following technologies within the multiple-stand tandem cold rolling mill:

- use of CVC/CVC^{plus} technology with CVC roll contours of higher order, wherein each work roll or intermediate roll (10, 11) has a barrel lengthened by the amount of the shifting stroke;

- use of pair-cross (PC) technology, wherein each work roll or intermediate roll (10, 11) can be swiveled parallel to the plane of the strip;

use of strip edge-oriented shifting of the work rolls or intermediate rolls (10, 11), wherein each work roll or intermediate roll (10, 11) has a barrel which is lengthened by the amount of the shifting stroke and which has a cylindrical or cambered cross section, and the work rolls or intermediate rolls (10, 11) are each symmetrically shifted from the neutral shift position ($s_{ZW} = a$ or $s_{AW} = 0$) by the same amount symmetrically to the center of the stand (Y-Y) in the direction of their axes of rotation (X-X), wherein, to use strip edge-oriented shifting, the work rolls or intermediate rolls (10, 11) are provided with a one-sided setback (d), such that when each work roll or intermediate roll (10, 11) is shifted, the beginning (d_0) of the setback (d) is positioned outside the strip edge, at the strip edge, or inside the strip edge so as to be within the width of the strip (14).

3. (Currently amended) Method for the operation of the rolling stands of a tandem cold rolling mill, comprising a pair of work rolls (10) and a pair of backup rolls (12) in the case of four-high rolling stands and, in addition, a pair of intermediate

rolls (11) in the case of six-high rolling stands, wherein at least the work rolls (10) and the intermediate rolls (11) interact with axial shifting devices, comprising the combined use of the following technologies within the multiple-stand tandem cold rolling mill:

- use of CVC/CVC^{plus} technology with CVC roll contours of higher order, wherein each work roll or intermediate roll (10, 11) has a barrel lengthened by the amount of the shifting stroke;
- use of pair-cross (PC) technology, wherein each work roll or intermediate roll (10, 11) can be swiveled parallel to the plane of the strip;

use of strip edge-oriented shifting of the work rolls or intermediate rolls (10, 11), wherein each work roll or intermediate roll (10, 11) has a barrel which is lengthened by the amount of the shifting stroke and which has a cylindrical or cambered cross section, and the work rolls or intermediate rolls (10, 11) are each symmetrically shifted from the neutral shift position ($s_{ZW} = a$ or $s_{ZW} = 0$) by the same amount symmetrically to the center of the stand (Y-Y) in the direction of their axes of rotation (X-X) in accordance with Claim 1, wherein the shift position of the work roll or intermediate roll (10, 11) in different strip width ranges is predetermined by piecewise-linear step functions which are based on different positions of the

beginning (d_0) of the setback (d) relative to the edge of the strip (14).

4. (Previously presented) Method in accordance with Claim 1, wherein optimum utilization of the combination of technologies within the multiple-stand tandem cold rolling mill is realized by optimized shifting strategies as a function of the strip width.

5. (Currently amended) Tandem cold rolling mill, comprising four-high or six-high rolling mills, each with a pair of work rolls (10) and a pair of backup rolls (12) in the case of four-high rolling stands and, in addition, a pair of intermediate rolls (11) in the case of six-high rolling stands, wherein at least the work rolls (10) and the intermediate rolls (11) interact with axial shifting devices, wherein the work rolls and intermediate rolls (10, 11) of the rolling stands each have a symmetrical barrel which is lengthened by the amount of the shifting stroke, has a cylindrical or cambered cross section, and is symmetrically positioned in the center of the stand (Y-Y) for the neutral shift position ($s_{ZW} = 0$ or $s_{AW} = 0$), wherein ~~choice of~~ the rolling stands allow ~~allows~~ a combination of the different technologies of

- strip edge-oriented shifting of the work rolls and intermediate rolls (10, 11),
- CVC technology, and
- swiveling of the work rolls (10), PC (pair cross) technology within the multiple-stand tandem cold rolling mill.

6. (Previously presented) Tandem cold rolling mill in accordance with Claim 5, wherein the barrel of the work rolls and intermediate rolls (10, 11) is furnished with a one-sided setback (d), whose length (l) is divided into two adjacent regions (a) and (b), such that the first region (a), beginning with the radius (R_0), obeys the equation of the circle

$$(1 - x)^2 + y^2 = R^2,$$

and the region (b) runs linearly, from which the following setback (d) or the following diameter reduction (2d) is obtained for these regions:

Region a:

$$= (R^2 - (R - d)^2)^{1/2} \Rightarrow d = d(x) = R - (R^2 - (1 - x)^2)^{1/2}$$

Region b:

$$= 1 - a \Rightarrow d = d(x) = \text{constant}.$$

7. (Canceled)

8. (Canceled)

9. (Currently amended) Tandem cold rolling mill in accordance with Claim 5, wherein the work rolls or the intermediate rolls of the rolling stand are geometrically identical and form a set so that the CVC/CVC^{plus} technology, the technology of strip edge-oriented shifting, and PC technology are realized with only one geometrically identical set of rolls.